

IN THE SPECIFICATION

Please amend the second full paragraph on page 3, lines 7-17, and the paragraph of page 3, lines 18-21, and page 4, lines 1-9, of the application (paragraphs [0004] and [0005] of the published application) as follows:

The problem with the current embodiment of the targets is that they are spatially biased in one direction (usually vertical or near vertical). Refractive errors such as astigmatism and higher order aberrations (~~vertical~~ coma, ~~vertical~~ trefoil, tetrafoil, ... [[etc.]]) cause lines to appear darker (higher contrast) in one angular orientation than in the orthogonal orientation where they appear much lighter (lower contrast). In fact, the finding that lines appear darker in one meridian than another is used to determine the axis (orientation) of the astigmatism and higher order aberrations. The Lancaster Wheel and Sunburst target (Figure 1A & B) are examples of these tests. In Figure 1A, the actual appearance of the target is with all radial lines appearing equally dark. With astigmatism and non-rotationally symmetric higher order vertical aberrations the lines appear darker (higher contrast) in the meridian nearest the retina and lighter (lower contrast) in the orthogonal meridian, as shown in Figure 1B.

Astigmatism simply means the power of the eye is similar to a torus, biconic or toric ellipsoid where there is a strong and a weak power that are 90° apart. In Figure 1B, the darkest line in the Clock Sunburst pattern is along the meridian that is 2 o'clock (30° from horizontal). The lightest line is 90° away at 11 o'clock. A patient with astigmatism oriented at 30° would see the sunburst with this appearance. Astigmatism can occur at any axis, so the appearance of the

Sunburst or Clock [[Wheel]] pattern will appear differently depending on the amount and orientation of the astigmatism. Astigmatism is one of the simplest of optical errors and is therefore considered to be Lower Order Aberration optically and can be corrected with spectacles. Higher order aberrations of the eye can occur also (coma, trefoil, tetrafoil, ...) which are more complex aberrations of the optical system that cannot be corrected with spectacles. They do however, cause the Sunburst pattern to have irregularly darker and lighter spokes. Depending on the exact aberrations of the individual, vertical or near vertical lines will appear differently to each individual causing a difference in the threshold of the contrast of the actual lines seen.

Please amend the first paragraph under BRIEF DESCRIPTIONS OF DRAWINGS on page 7, line 5, of the application (paragraph [0014] of the published application) as follows:

Figure 1A illustrates Sunburst, Clock [[Wheel]] (or Wheel [[Clock]]) and Lancaster Cross prior art targets;

Please amend the paragraph of page 8, lines 14-21, of the application (paragraph [0023] of the published application) as follows:

Spatial frequency: Spatial frequency is the number of times that a cycle is repeated over a given distance. Distances are measured using the visual angle, so the unit of measure is usually in cycles (number of sinusoids) that occur in a single degree. For example, 30 cycles per degree, means that the sinusoidal pattern is repeated 30 times in an angle of 1 degree. For the

Fundamental Sinusoidal letters, each stroke is considered to be $\frac{1}{2}$ the fundamental sinusoidal period ~~the fundamental sinusoidal frequency~~. For 30 cycles per degree, the width of each stroke of a letter would be $\frac{1}{60}$ [[1/30]] of a degree and the height and length of each letter would be equal and 5 times larger than the width of a stroke, as is the standard for letters used in visual acuity testing (previous 2 references).

Please amend the paragraph of page 11, lines 19-20, of the application (paragraph [0032] of the published application) as follows:

A fourth embodiment of the present invention is new Fundamental Sinusoidal Letters Target, illustrated in Figure 5. The Fundamental Sinusoidal Letter "E" of Figure 5 is formed by four "strokes" or elements, indicated at 10a, 10b, 10c, and 10d. It is to be understood that while only straight or linear strokes are illustrated in Figure 5, the strokes may also be curved. Each single "stroke" or element of the letter has a central peak (center bright) or valley (center dark), illustrated at 6 for the sinusoid indicated in general at 7 and 8 for sinusoid indicated in general at 9 in Figure 5, that tapers off in all directions sinusoidal for $\frac{1}{2}$ period. Each letter is then constructed using "strokes" so that the edges of each stroke intersect at the $\frac{1}{2}$ period. The fundamental spatial frequency is determined by the width of the stroke, indicated at 12 and 14 in Figure 5. The height (18 in Figure 5) and width (12 plus 16 in Figure 5) of the letter are equal and 5 times larger than the width of a stroke (12, 14). A Fundamental Letter equivalent to 30 cycles/degree would have a stroke width of $\frac{1}{60}$ [[1/30]] of degree (1 minute of arc) width.